



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/585,140

05/27/2007

Dominique Bolignano

BOLIGNANO1

9931

1444 7590 04/27/2010
BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

PATEL, KAMINI B

ART UNIT

PAPER NUMBER

2114

MAIL DATE

DELIVERY MODE

04/27/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,140	Applicant(s) BOLIGNANO ET AL.	
	Examiner KAMINI PATEL	Art Unit 2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>06/02/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the application filed on 06/26/2007, in which claims 1-26 are presented for the examination.

Information Disclosure Statement

2. The Information Disclosure Statement (IDS) submitted on 06/02/2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the IDS statement is being considered by the examiner.

Drawings

3. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Claim Objections

4. Claim 18 and 22 are objected to because of the following informalities: Claim 18 and 22 consist asterisk. Removing of asterisks is required.

Examiner's Note

Art Unit: 2114

5. Examiner would like to get the clarification on the parentheses included in claims 1, 4-5, 12, 17, 19, 20-23.

Allowable Subject Matter

6. Claims 6-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claim 26 is allowed.

8. Claim 26 is indicated as allowable and the following is a statement of reasons for the indication of allowable subject matter: Upon searching variety of databases, the examiner considers “execution branches converge whose number is greater than a certain threshold and/or those which are entry points of subroutines and/or of exception handlers, and in that said assigned value is a given value and/or any value determined by random drawing and/or a program expression determined by previous analysis as an invariant at the program point under consideration” in claim 9, in conjunction with all other limitations of the dependent and independent claims are not taught nor suggested by the prior art of record (PTO-892). Therefore, claim 26 is hereby allowed.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

10. Claims 1, 3-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Farchi et al. (US 6,978,444, referred herein after Farchi).

As per claim 1, Farchi discloses method for controlling program execution integrity by verifying execution traces (Fig. 1, Col. 2, lines 55-67), ***comprising: updating a trace print representing an execution pathway and/or handled data on program execution*** (Col. 3, lines 14-24), ***comparing said trace print (current value, calculated dynamically) with an expected value (fixed statically, equal to a value the trace print should have if program execution is not disturbed) at determined points of the program*** (Fig. 2, Col. 3, lines 14-24), ***performing special treatment if the current trace print differs from the expected value*** (Fig. 2, col. 3, lines 14-24, where id both

values do not match a debugger is invoked which is considered as a special treatment as claimed).

As per claim 3, Farchi discloses method as in claim 1, wherein said trace print only concerns critical code fragments of the program and/or program status which is considered critical (Fig. 1, Col. 2, lines 55-67).

As per claim 4, Farchi discloses method as in claim 1, wherein said trace print is calculated incrementally along the execution pathway of the program by successive composition of a function of which one argument is the current trace print value and another argument is a specific observation data item at point and time of trace print updating (program status and/or program execution point and/or handled data) (Fig. 2, Col. 3, lines 14-24).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farchi in view of Padawar et al. (US 5,124,989).

As per claim 2, Farchi discloses method as in claim 1, wherein the special treatment of the program if the current trace print differs from the expected value (Fig. 2, col. 3, lines 14-24),

Farchi does not specifically discloses consists of securitizing certain data and/or alerting a user of the ill-functioning by a sound or visual signal and/or interrupting the execution of said program whether definitively or not;

However, Padawar discloses the above claim limitations, (Padawar, Fig. 3, step 251, Col. 7, lines 62 thru col. 8, lines 1-17);

Therefore it would have been obvious to the one of ordinary skill in the art at the time of invention to incorporate teaching of Padawar's method into Farchi's method because one of the ordinary skill in the art would have been motivated to take action to properly correct the error (Col. 8, lines 10-14).

As per claim 5, Farchi discloses method as in claim 4, wherein Farchi does not specifically discloses said function consists of one of the following functions: checksum, linear congruency, cyclic redundancy check (CRC),

cryptographic tracing print (digest), or combination of the following operations: addition, subtraction, or exclusive logic (xor) with a constant or with said observation data item; rotation of a constant number of bits; multiplication by an uneven constant;

However, Padawer discloses the above claim limitations, (Padawer, Fig. 3, step 204, Col. 3, lines 3-36, Col. 7, lines 62 thru col. 8, lines 1-17);

Therefore it would have been obvious to the one of ordinary skill in the art at the time of invention to incorporate teaching of Padawar's method into Farchi's method because one of the ordinary skill in the art would have been motivated to take action to properly correct the error (Col. 8, lines 10-14).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMINI PATEL whose telephone number is (571)270-3902. The examiner can normally be reached on Monday to Thursday, 6am-4:30pm EST.

Art Unit: 2114

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on 571-272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott T Baderman/
Supervisory Patent Examiner, Art Unit 2114

/Kamini Patel/
Examiner, Art Unit 2114